

IN THE CLAIMS:

Please add new claims 8-14. The status of the claims is:

1. (Previously Presented) An inorganic intercalated catalyst for the copolymerization of carbon dioxide and epoxide to form poly(-alkylene carbonate) prepared by intercalating zinc dicarboxylate into an inorganic matrix, said inorganic matrix is prepared by delaminating inorganic mineral particles having layered structure.

2. (Previously Presented) The inorganic intercalated catalyst of claim 1 wherein the weight ratio of said zinc dicarboxylate to said inorganic matrix is from 1/1 to 1/20.

3. (Previously Presented) The inorganic intercalated catalyst of claim 1 wherein said intercalated agent zinc dicarboxylate is selected from a group consisting of zinc succinate, zinc glutarate, zinc adipate, zinc pimelate, zinc suberate, and mixtures thereof.

4. (Previously Presented) The inorganic intercalated catalyst of claim 1 wherein said inorganic mineral particles having layered structure are selected from a group consisting of montmorillonite, mica, vermiculite and kaolin.

5. (Previously Presented) A process for preparation of an inorganic intercalated catalyst for the copolymerization of carbon dioxide and epoxides to form poly(alkylene carbonate)s comprising:

delaminating inorganic mineral particles having layered structure with diluted acid, then calcining the product at 600-1,000 °C in a muffle furnace for 2~10 h to gain an inorganic matrix;

dissolving a zinc dicarboxylate in a strongly polar solvent with a pH value from 1.0 to 4.0, to form a reaction system, then introducing calcined acidic matrix into the reaction system to perform intercalation for 30~120 minutes at a temperature from room temperature to 80 °C;

removing the solvent to obtain a crude catalyst;

refluxing the crude catalyst in a solvent with less polarity than said strong polar solvent at the temperature from 80 to 140°C for 24 hours; and

separating the inorganic intercalated catalyst by filtration.

6. (Previously Presented) The process of claim 5 wherein said strong polar solvent is selected from a group consisting of methanol, glycol, ethylene glycol monobutyl ether, ethylene glycol monomethyl ether, N, N'-dimethyl formamide, sulfolane, imidazole, quinoline, water and N-cyclohexyl pyrrolidine.

7. (Previously Presented) The process of claim 5 wherein said solvent with less polarity is selected from the group consisting of benzene, toluene and xylene.

8. (New) The process of claim 5 wherein the process further comprises the copolymerization of carbon dioxide and epoxides to form poly(alkylene carbonate)s, and wherein the process further comprises the step of using said intercalated catalyst to catalyze the copolymerization of carbon dioxide and epoxides to form poly(alkylene carbonate)s.

9. (New) A process for copolymerizing carbon dioxide and epoxides comprising the steps of:

preparing an inorganic intercalated catalyst using steps comprising:

delaminating inorganic mineral particles having layered structure with diluted acid, then calcining the product to gain an inorganic matrix;

dissolving a zinc dicarboxylate in a strongly polar solvent with a pH value from about 1.0 to 4.0, to form a reaction system, then introducing calcined acidic matrix into the reaction system to perform intercalation;

removing the solvent to obtain a crude catalyst;

refluxing the crude catalyst in a solvent with less polarity than said strong polar solvent;

separating the inorganic intercalated catalyst by filtration; and,

using said inorganic intercalated catalyst to catalyze the copolymerizing of carbon dioxide and epoxides.

10. (New) The process of claim 9 wherein said strong polar solvent is selected from a group consisting of methanol, glycol, ethylene glycol monobutyl ether, ethylene glycol monomethyl ether, N, N'-dimethyl formamide, sulfolane, imidazole, quinoline, water and N-cyclohexyl pyrrolidine.

11. (Currently Amended) The process of claim 9 wherein said solvent with less polarity is selected from the group consisting of benzene, toluene and xylene.

12. (New) The process of claim 9 wherein said copolymerization of carbon dioxide and epoxides forms poly (propylene carbonate).

13. (New) The process of claim 9 wherein the step of calcining the product comprises calcining it at about 600°-1,000 °C in a muffle furnace for about 2~10 h, and the step of performing intercalation comprises introducing calcined acidic matrix into the reaction system for about 30~120 minutes at a temperature from about room temperature to 80 °C.

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14. (New) The process of claim 9 wherein the step of refluxing the crude catalyst is carried out at the temperature from about 80° to 140°C for about 24 hours.